

WHAT IS CLAIMED IS:

1. A sound generation device for outputting a sound in accordance with an operation by a performer, comprising:
 - 5 a housing capable of being held by both hands;
 - tilt detecting means for detecting an amount of tilt in at least one direction of the housing;
 - sound waveform data storing means for storing at least one piece of sound waveform data;
 - 10 sound waveform data reading means for reading the sound waveform data from the sound waveform data storing means at a predetermined timing;
 - sound waveform data processing means for changing at least a frequency of the sound waveform data read by the sound waveform data reading means in accordance with the amount of tilt 15 detected by the tilt detecting means; and
 - sound outputting means for outputting the sound waveform data processed by the sound waveform data processing means as a sound.
- 20 2. The sound generation device according to claim 1, wherein
 - the tilt detecting means detects amounts of tilt in at least two directions of the housing, and
 - 25 the sound waveform data processing means changes a

frequency of the sound waveform data read by the sound waveform data reading means in accordance with an amount of tilt in a first direction detected by the tilt detecting means, and changes an amplitude of the sound waveform data in accordance with an amount 5 of tilt in a second direction detected by the tilt detecting means.

3. The sound generation device according to claim 1, further comprising lyrics data storing means for storing at least one piece of lyrics data, wherein

10 the sound waveform data storing means at least stores, as sound waveform data, human voice sound waveform data obtained when a person utters, at a predetermined pitch, syllables included in the lyrics data stored in the lyrics data storing means, and the sound waveform data reading means sequentially reads 15 syllables included in the lyrics data from the lyrics data storing means, and reads human voice sound waveform data corresponding to the read syllable from the sound waveform data storing means.

4. The sound generation device according to claim 1, further comprising first operation means with which the performer 20 specifies a sound outputting timing, wherein

when the first operation means is operated, the sound waveform data reading means reads the sound waveform data from the sound waveform data storing means.

5. The sound generation device according to claim 1,
further comprising:

backing music data storing means for storing at least
one piece of backing music data; and

5 second operation means with which the performer
specifies a backing music start timing, wherein
after the second operation means is operated, the sound
outputting means sequentially reads the backing music data from
the backing music data storing means, and outputs the read backing
10 music data along with the sound waveform data processed by the
sound waveform data processing means.

6. The sound generation device according to claim 5,
further comprising:

15 reference play data storing means for storing at least
one piece of reference play data;
musical performance results storing means for storing
the amount of tilt detected by the tilt detecting means as musical
performance results data, by associating the detected amount of
20 tilt with the backing music data stored in the backing music data
storing means;

musical performance results checking means for checking
the musical performance results data stored in the musical
performance results storing means against the reference play data
25 stored in the reference play data storing means; and

musical performance final results notification means for notifying the performer of checking results obtained by the musical performance results checking means as performance final results.

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7. The sound generation device according to claim 6, further comprising first operation means with which the performer specifies a sound outputting timing, wherein

when the first operation means is operated, the sound waveform data reading means reads the sound waveform data from the sound waveform data storing means, and

the musical performance results storing means stores an operation timing of the first operation means as a portion of the musical performance results data, by associating the operation timing with the backing music data stored in the backing music data storing means.

8. A sound generation program for causing a game machine to function as a sound generation device, wherein the game machine includes a housing capable of being held by both hands, tilt detecting means for outputting a value corresponding to an amount of tilt in at least one direction of the housing, program storing means for storing a program, data storing means for storing data including at least one piece of sound waveform data, program processing means for processing the data stored in the data storing

means, based on the program stored in the program storing means, and sound outputting means for outputting processing results obtained by the program processing means as a sound, the sound generation program comprising:

5 a tilt calculating step of obtaining an amount of tilt in at least one direction of the housing, based on the value output from the tilt detecting means;

 a sound waveform data reading step of reading the sound waveform data from the data storing means at a predetermined
10 timing;

 a sound waveform data processing step of changing at least a frequency of the sound waveform data read at the sound waveform data reading step, in accordance with the amount of tilt obtained at the tilt calculating step; and

15 a sound output controlling step of causing the sound waveform data processed at the sound waveform data processing step to be output from the sound outputting means as a sound.

9. The sound generation program according to claim 8,

20 wherein

 the tilt detecting means outputs values corresponding to amounts of tilt in at least two directions of the housing,

 the tilt calculating step obtains the amounts of tilt in at least two directions of the housing, based on the values
25 output from the tilt detecting means, and

the sound waveform data processing step changes a frequency of the sound waveform data read at the sound waveform data reading step, in accordance with an amount of tilt in a first direction obtained at the tilt calculating step, and changes an 5 amplitude of the sound waveform data in accordance with an amount of tilt in a second direction obtained at the tilt calculating step.

10. The sound generation program according to claim
10 8, wherein

the data storing means further stores at least one piece of lyrics data, and stores, as sound waveform data, at least human voice sound waveform data obtained when a person utters syllables included in the stored lyrics data at a predetermined pitch, and

15 the sound waveform data reading step sequentially reads syllables included in the lyrics data from the data storing means, and reads human voice sound waveform data corresponding to the read syllable from the data storing means.

20 11. The sound generation program according to claim
8, wherein

the game device further includes first operation means with which the performer specifies a sound outputting timing, and

when the first operation means is operated, the sound 25 waveform data reading step reads the sound waveform data from the

data storing means.

12. The sound generation program according to claim
8, wherein

5 the game device further includes second operation means
with which the performer specifies a backing music start timing,
 the data storing means further stores at least one piece
of backing music data, and

10 after the second operation means is operated, the sound
output controlling step sequentially reads the backing music data
from the data storing means, and outputs the read backing music
data along with the sound waveform data processed at the sound
waveform data processing step.

15 13. The sound generation program according to claim
12, wherein the data storing means further stores at least one
piece of reference play data, the sound generation program further
comprising:

20 a musical performance results storing step of causing
the data storing means to store the amount of tilt obtained at
the tilt calculating step as musical performance results data,
by associating the obtained amount of tilt with the backing music
data stored in the data storing means;

25 a musical performance results checking step of checking
the musical performance results data stored at the musical

performance results storing step against the reference play data stored in the data storing means; and

a musical performance final results notification step of notifying the performer of checking results obtained at the 5 musical performance results checking step as performance final results.

14. The sound generation program according to claim 13, wherein

10 the game device further includes first operation means with which the performer specifies a sound outputting timing, when the first operation means is operated, the sound waveform data reading step reads the sound waveform data from the data storing means, and

15 the musical performance results storing step stores an operation timing of the first operation means as a portion of the musical performance results data, by associating the operation timing with the backing music data stored in the data storing means.